STATEMENT OF THE PROBLEM (4.19.05 group discussion—NOT A CONSENSUS PRODUCT)

(Balcomb, Cottingham, LaBelle, Melton, Pittenger, Purdy, Ray, Reynolds, Schoennagel, Simmonds, Tomaszeski, Wan, Young)

Marine mammals have evolved for millions of years to rely on sound for vital life functions.

Anthropogenic sound in the oceans has increased since the start of the industrial revolution, and while increases in ambient noise levels, as well as individual sound sources, may cause adverse effects ranging from inconsequential to harmful, the extent and type of impacts are not well understood.

Scientists agree that marine mammals may be adversely affected by exposure to anthropogenic sound in ways ranging from inconsequential to harmful, or even lethal.

After recent highly-publicized strandings of cetaceans coincident with the use of midfrequency tactical sonar, public concern has increased about the effects of anthropogenic sound.

However, there are significant gaps in information available to understand and manage these effects.

Marine mammals are difficult to study, and the marine environment is complex and dynamic.

While research and substantial resources are needed to refine management and better understand the effects of anthropogenic sound, there is a need for some level of precaution, and decisions about mitigation do not wait for scientific certainty.

Management agencies must make decisions about how to manage these effects in the face of substantial uncertainties.

Federal agencies, researchers, and sound-producing entities are grappling with problems in permitting ocean activities while protecting marine mammals.

A variety of international for have acknowledged this.

In particular, the significance of these effects to individuals and populations is difficult to study and understand, and is largely unknown.

For example, it is difficult to define populations and determine the effects of anthropogenic sound on populations.

Marine mammals are affected in complex ways by a variety of natural and human factors.